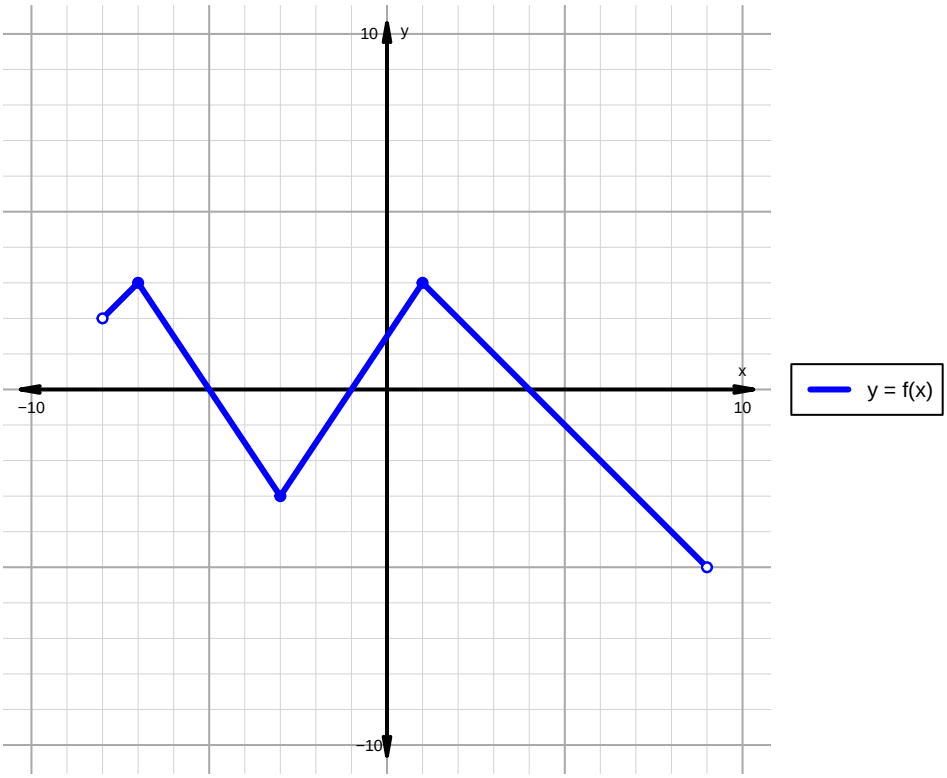
Name: Date:

Intervals, Transformations, and Slope Solution (version 35)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8,-5)\cup(-1,4)$
Negative	$(-5,-1)\cup(4,9)$
Increasing	$(-8,-7)\cup(-3,1)$
Decreasing	$(-7,-3)\cup(1,9)$
Domain	$(-8,9)$
Range	$(-5,3)$

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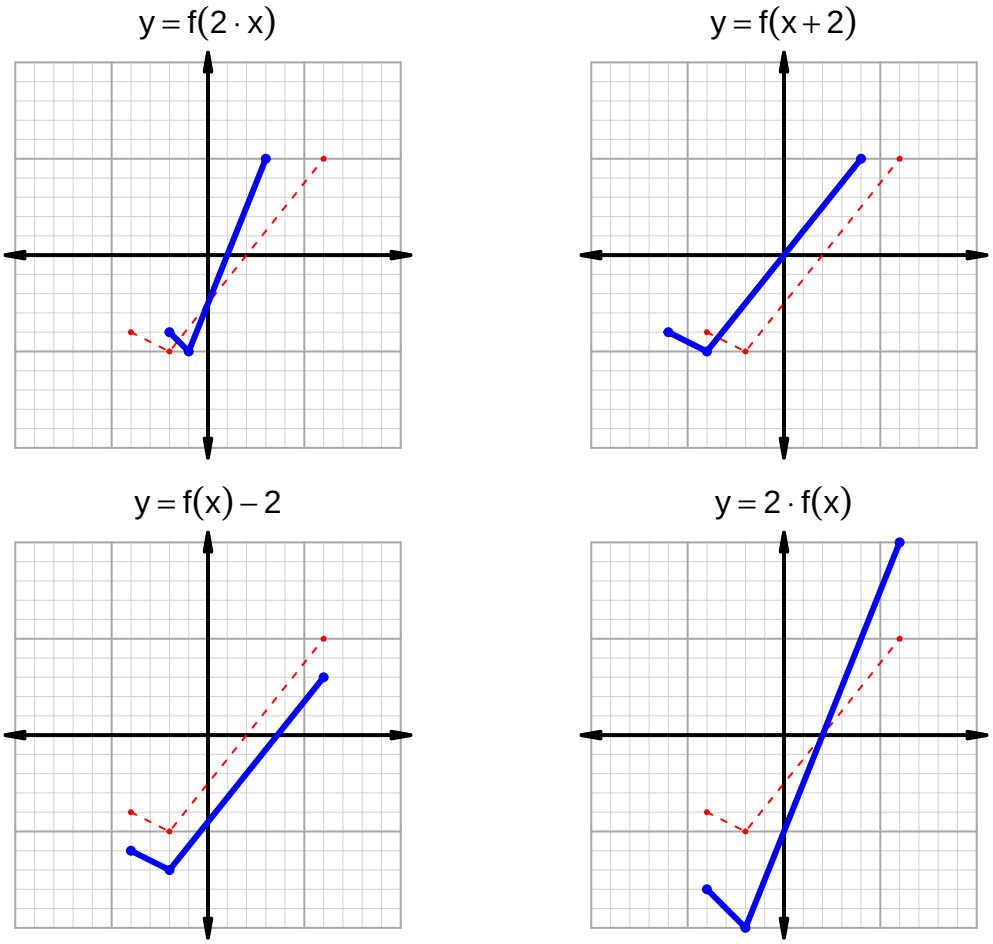
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. Please add the indicated transformed graphs indicated by the equations below using a solid line.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 32$ and $x_2 = 40$. Express your answer as a reduced fraction.

x	$g(x)$
32	36
36	40
40	48
48	32

$\frac{f(40)-f(32)}{40-32} = \frac{48-36}{40-32} = \frac{12}{8}$

The greatest common factor of 12 and 8 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{2}$$